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ABSTRACT

Planning-programming-budgeting systems (PPBS) have been looked on by public-sector organizations as a mechanism to improve the decision process in resource allocation. PPBS requires (1) selecting the overall long-range objectives of the organization and the systematic analysis of various courses of action leading to their attainment; (2) deciding on the specific courses of action to be pursued; and (3) translating planning and programming decisions into explicit financial requirements for resources. The use of a program budget and the application of cost-benefit analysis is necessary for the implementation of PPBS. The origins of the process are reviewed along with a detailed analysis of its problems and the reasons for its failure in the field of higher education. (LBH)

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PPBS IN HIGHER EDUCATION: THE IMPOSSIBLE DREAM?

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Over the last decade, institutions of higher education have been plagued by a seemingly endless array of problems--a decline in public confidence, student pressures for educational relevance, the prospect of falling enrollments, and an ever-deepening fiscal crisis. In response, jurisdictional agencies and institutions themselves have devoted greater attention to the processes employed to manage their resources. In the late sixties, evidence of this concern was represented by the interest in the applicability of *planning-programming-budgeting systems*, which public-sector organizations looked upon as a mechanism to improve the decision process in resource allocation. However, in spite of potential benefits offered by the application of PPBS toward a more rational management process, the promise was never fulfilled, leaving the problem to which it was addressed still unresolved.

CHARACTERISTICS OF PPBS

PPBS is not merely a technique but, as Farmer (1970, pp. 8-9) has observed, an organization of people and equipment applying a specific technology to the management of its resources. An organization using PPBS must assign responsibility for each of its three sequential steps--*planning, programming, and budgeting*--to specific organizational units, develop the procedures for their interrelationship, and be intellectually dedicated to management of that organization through the specific process.

In brief, PPBS is a system which requires

1. Selecting the overall long-range *objectives* of the organization and the systematic analysis of various courses of action leading to their attainment;
2. Deciding upon the *specific courses of action* to be pursued;
3. Translating planning and programming decisions into *explicit financial requirements* for resources (Benacerraf et al. 1972, pp. 341-58).

PPBS provides a means to attain this objective through the use of a *program budget* and the application of *cost-benefit analysis*. A program budget is simply a format for organizing information about the costs and benefits of the output of an organization. It has the following characteristics:

1. A structure of activities stated as *output producing* programs
2. Organization of these programs to relate to explicitly stated *objectives*
3. A focus on the *outputs* and costs into the future (Farmer 1970, pp. 6-10).

Cost-benefit analysis is an organizationally-specific methodology for measuring the relative costs and benefits of optional courses of action (Alfandery-Alexander 1968 pp. v-vi). Its purpose is to provide a basis for program selection within an environment of constrained resources.

ORIGINS OF THE PROCESS

PPBS had its rudimentary origin in the 1949 Hoover Commission report that recommended federal development and application of a performance-oriented budget based upon functions and activities (Schulze 1968, p. 13; Balderston and Weathersby 1972, p. 3). Although various embellishments in the concept were suggested during the ensuing decade, the work of Hitch and McKean (1960) and the senior author's subsequent appointment as comptroller of the Department of Defense provided the impetus for launching the initial PPBS application in 1963 (Schulze 1968, p. vii; Bowen 1975, p. 4). A few years later, President Johnson directed most of the federal civilian agencies to follow suit (Schulze 1967).

Strangely enough, implementation within the Department of Defense was linked closely to consideration of PPBS within higher education. A study, commissioned by the American Council on Education, directed by Williams and several of his associates at the Institute for Defense Analyses, proposed that the mechanism be applied to higher education (Williams 1966). This study shaped the directions of PPBS in higher education and not necessarily in a way consistent with the basic objectives of the process. In their analysis of Williams' report, Balderston and Weathersby (1972, pp. 11-12) noted that the investigators began with the premise that Defense Department PPBS procedures were directly transferable to college and university management without a rigorous evaluation of objectives, as had been done earlier in the military application. Furthermore, they observed that Williams'

approach was formulated upon *current activities* rather than *educational program objectives*. This activity-oriented view, in which programs were represented by academic organizational units such as departments and schools, dominated most of the subsequent developments concerning PPBS in higher education.

The year 1968 marked an impetus for a broad research program concerning management processes for higher education. Through a series of grants provided by the Ford Foundation to educational institutions in the United States and in Canada, comprehensive projects were initiated in areas such as analytical methodology, budgeting, planning models, and data management. These efforts were undertaken at the University of Toronto (Judy 1970), University of California at Berkeley (Hitch and Balderston 1969), and Princeton University (Benacerraf et al. 1972), as well as several other institutions. Across the Atlantic in the same year, the Organization of Economic Cooperation and Development began to coordinate a series of projects at European universities covering both the application of PPBS and the development of supporting analytical processes (OECD 1968).

Coincident with the evolutionary development of PPBS for higher education, a need arose for a much more sophisticated level of informational support than had been required for traditional budgetary procedures. Fortunately, but not necessarily by design, the models necessary to support analysis and planning were developed concomitantly with PPBS. The initial institutional resource models were developed in the late 1960s at the University of Toronto by Judy and Levine (1965),

at Iowa State by Fox, McCamley, and Plessner (1967), at the University of California by Weathersby (1967), and at Michigan State by Koenig et al. (1968). By simulating the educational production process, these models provided estimates of the resource requirements associated with changes in student enrollments or in operational configurations. These early successes led to the later development of a wide variety of sophisticated application methodology (Schroeder 1973; Oliver 1974).

In 1970 the environment and resources for the long-term conduct of a broadly based program for the design, development, and implementation of management information systems were provided through funding by the U.S. Office of Education of what was later to evolve into the National Center for Higher Education Management Systems (Weathersby 1970, p. 17). Building upon the concept of program-structured data collection and analytical methodology, NCHEMS quickly became the focus of PPBS-related developmental activities in the United States.

Concurrent with the development activities relating to the application of PPBS to institutions of higher education, pressure arose at the state level of government for adoption of improved resource allocation procedures (Schick 1971). The actual mechanism by which this was generated varied from state to state. In some, it grew out of the creation and/or expansion of statewide coordinating and governing agencies for education. In others, it represented response to the demands imposed by elected state officials for improved budgetary and control procedures for the entire gamut of programs under state jurisdiction. By 1971, over one-half of the 50 states had formally adopted

programs designed to lead to the implementation of PPBS (Balderston and Weathersby 1972, p. 10).

As the sixties converged on the seventies, the future of PPBS in higher education seemed bright. Commitments for its implementation in a variety of public-sector organizations existed, and significant and well-funded efforts had been undertaken in methodological support. Finally, the appointment of Charles J. Hitch (whose name is linked indelibly in the earliest developmental efforts) as President of the University of California, together with the commitment of the state of California to PPBS, presaged widespread success.

A FUNNY THING HAPPENED ON THE WAY TO . . .

Scarcely had many of these endeavors attained high gear when an event, which nearly passed unnoticed, occurred in mid-1971. In spite of the auspicious circumstances under which PPBS was ushered into the limelight, its demise as a formally applied procedure was implicitly announced when the Office of Management and Budget's annual request for federal agency budget submissions failed to carry any mention of the heretofore heralded procedure. Later, the obituary was written by Schick:

> The death notice was conveyed on June 21, 1971, in a memorandum accompanying Circular A-11, the OMB's annual ritual for preparation and submission of agency budget requests. No mention was made in the memo of the three initials which had dazzled the world of budgeting five years earlier, nor was there any admission of failure or disappointment (1973, p. 146).

Elsewhere in the organized sectors of society, formal recognition of the federal demise of PPBS did not follow or may have been deliberately ignored. Indeed, momentum tended to propel both ongoing and new efforts in development and application (Balderston and Weathersby 1972; Schroeder 1973; Oliver 1974) that in the long run had no effect upon its ultimate destiny. Within state governments, Bowen (1975, p. 2) recently characterized the current status of PPBS as being in an arrested state of development at best with little other than visible legacies of program budget formats. And within the sector of higher education, Schroeder (1973, p. 896) has flatly concluded that no true application was ever instituted.

SYMPTOMS OF FAILURE

Some would argue that an insufficient span of time has elapsed to determine objectively why the promise of PPBS was not fulfilled and, indeed, a few would contend that it has not died but is alive and well but simply dormant. Certainly the problem to which it was addressed was of sufficient importance to justify the effort. Indeed this view is reinforced by Drucker's (1974, p. 166) belief that the management of public-sector organizations represents the most significant challenge to man's capability in the declining years of the current century, and Henry's (1975, pp. 148-60) reappraisal of higher education over the last 50 years which tends to confirm the validity of this position in regard to the nation's colleges and universities. Since PPBS and its supporting systems represented less than a decade ago the major hope

for improvement in the resource management process, it is appropriate to examine the problems encountered in application in order to determine whether they constitute symptoms of a more fundamental nature.

Among the problems appearing to be the most salient in the application of PPBS are the following:

1. Commonly cited as a problem in the application of PPBS was a preoccupation with technique instead of purpose (Howe 1974, p. 3). Those involved in the process became mentally exhausted from the endless demands of documentation, specialized procedures, and terminology (Gross 1969, p. 116; Bowen 1975, p. 6). As a consequence, the processes of deriving meaningful decisions became a charade (Howe 1974, p. 3). After several iterations, even staunch proponents recognized that in its then applicable form little or no contributory benefit was being achieved.
2. Most of the attempted applications ignored or paid perfunctory attention to the explicitly defined sequence of developing long-term plans, then devising the required programming steps, and lastly dealing with the immediate budgetary implications. In practice, the sequence was reversed. Programs and plans became simply extrapolations of existing commitments and the PPBS procedure, as conducted, did little more than cast data into new output formats (Wildavsky 1969, pp. 192-6; Glenny et al. 1975, pp. 69-70).

3. Responsible operatives had great difficulty in deriving meaningful objectives and establishing criteria for making choices among alternatives (Haldi 1968, pp. 50-51; Balderston and Weathersby 1972, p. 8). Beyond the survival of the organization for its own sake, public-sector managements characteristically have confined their assessment of the future to little more than an expression of good intentions (Drucker 1974, pp. 141-47). Furthermore, they lack processes for the resolution of conflict on the basis of substantive information, since their typically expansive environments have offered an avenue of escape by simply providing a little more to each advocate (Hedberg 1976, p. 52). As a consequence, the thought processes inherently needed were alien to the normal conduct of their responsibilities.
4. The PPBS application, as well as its supporting information systems, was kept separate and distinct from ongoing procedures. The process was treated as an exercise divorced from the management of day-to-day operations and, therefore, did not become part of the decision structure (Schroeder 1973, p. 896). Even in the budgetary phase of the application, resistance by entrenched constituencies was sufficiently pronounced in many cases to insure parallel conduct of existing and usually obsolete procedures (Wildavsky 1969, pp. 191-2; Balderston and Weathersby 1972, p. 7; Howe 1974,

p. 3.) As a result, PPBS did not become an integrating force in improved resource management.

Had any one of these conditions been predictable, it would have constituted an indicator of likely failure of the application of PPBS. Collectively they guaranteed it!

A DIAGNOSIS OF THE CAUSE

On an aggregate basis, these symptoms were a reflection of a lack-of-futurity orientation in the management processes used in most public-sector organizations. Perhaps the condition should have been discernible by the early developers of PPBS but was not because the organizations of which these individuals were a part were not typical of those in the public domain. The conceivers of PPBS were employees of the Rand Corporation, the Institute for Defense Analyses, and the Air Force, all organizations in which planning for long-range objectives was an inherent driving force in the managerial process. To decide upon today's activities without thought of their impact upon tomorrow was unthinkable. Planning was part of everyday life, and the PPBS process was simply a unifying framework for marrying the present to the future. It was perhaps inconceivable to them that other public-sector organizations were not operated on a similar basis. Unfortunately, they were not. When PPBS was thrown into the civilian area, there was nothing for it to unify. Lost in the heyday of applications was Schick's warning.

> *PPBS is an idea whose time has not quite come.* It was introduced before the requisite concepts, organizational capability, political conditions, informational resources, and techniques were adequately developed (1969, p. 50).

A PRESCRIPTION FOR RECOVERY

PPBS, as a mechanism for improvement in resource planning in public-sector organizations, was a failure. But, when we speak of failure, we must distinguish between the *concept* and the *application*. Basically, the concept was a success in that it did provide a unifying framework for marrying the future to the present. As an application, however, PPBS was a failure because, in most of the organizations in which it was tried, no *meaningful* planning process existed for providing a base for the marriage. Indeed, the prevalence of the advocacy decision-process virtually precluded any perception of a need for planning, since it provided assurance that changes notably different from those applicable to current states of affairs were customarily excluded from consideration (Schulze 1968, pp. 50-53). Typical of the organizations omitting the planning function from their managerial scope were educational institutions (Katz and Kahn 1966, p. 91; Ackoff 1975, p. 24).

It would constitute a gross oversimplification to contend that the only thing that needs to be done to achieve utility from PPBS is to develop a set of plans. *Initiation of a planning process in any organization cannot be accomplished easily or quickly.* It requires an attitudinal commitment to the process as well as an appropriate structure for its conduct. Organizations reflecting a futurity view within their managerial philosophy exhibit a heritage of such a commitment (Moreno

1963, pp. 20-47; Katz and Kahn 1966, pp. 272 and 282; Ackoff 1970, pp. 1-21; and Drucker 1974, pp. 121-125). They recognize their interrelationships with the external environment and are sensitive to signals of change, viewing them not as threats but as opportunities (Thompson 1967, p. 67; Katz and Kahn 1969, pp. 90 and 272; Hedberg et al. 1976, p. 59). They evolve procedures for design and evaluation of alternative avenues of adjustment (Katz and Kahn 1966, p. 272; Lawrence and Lorsch 1969, p. 7; Ackoff 1970, p. 3). They view the two --surveillance of the environment and adjustment to change--as a decision process leading to the development of desired future states of affairs which are unlikely to occur in the absence of planned intervention (Katz and Kahn 1966, p. 272; Ackoff 1970, pp. 2-4). Typically, the entire process is conducted in an atmosphere conducive to the acceptance of change.

Furthermore, as planning has changed in substance from an art to more of a science, with an appropriate body of knowledge in its support, changes have occurred over time in the way in which it is structured. Three of these are significant because they may constitute barriers to implementation. The process of planning has changed first, from part-time participation of those whose primary assignment is outside the area of planning to one where responsibility is vested in full-time specialists; second, from conduct of *ad hoc* studies to the use of systematic formalized procedures with delineated operational responsibilities for implementation; and, lastly, from disparate treatment to an approach integrating organizational resources with performance (Arnoff 1958, pp. 197-224; Moreno 1963, pp. 20-30; Christenson 1968,

p. 61; Ackoff 1970, pp. 128-38; Chandler 1971, pp. 191-98; and Springer 1973, pp. 1177-82). It is perhaps of note that, although our models for successful planning are drawn principally from the private sector, analogous concepts are now being suggested for the public sector (Heilbroner 1975, Section 6, p. 9) and, within the latter, even for higher education specifically (Halstead 1974, pp. 14-20).

The mere suggestion that planning processes with these characteristics are appropriate to an educational setting does not necessarily make them acceptable to the constituencies involved. Anyone familiar with public-sector organizations in general and educational institutions specifically must, upon perusal of these criteria, speculate whether these organizations can ever accomodate themselves to any type of planning procedure other than the type cited by March and Simon (1967, pp. 140-41) as *satisficing*, where departure from the current status is minimal (Ackoff 1970, pp. 7-9). Furthermore, within the educational community, *a tradition of consensus decision making, a propensity to maintain stability regardless of environmental change, deliberately unstructured organizations, and an acceptance of pluralistic goals* create surroundings which are, at best, inhospitable to an integrated planning procedure. Outward manifestations of such a situation have been cited by Cammack:

> Leadership is lethargic or indifferent--not really concerned with anything except present comfort. Loads are heavy and planning is delayed until time can be found. . . . No one has the knowledge or competency to start an activity although some persons may talk knowingly about it. . . . Administrators prefer to act on the basis of expediency and opportunism. . . . Plans are seen by such individuals

> as hampering their freedom. Some despair of writing a plan which will satisfy everyone, and they fear arousal of the antagonism of some segment of the constituency. . . . Faculty members often prefer to harbor and promote unrealistic aspirations than to see development of a plan which may explicitly deny them. . . . Concern is voiced that planning overemphasizes financial considerations and tends to deny creative developments (1971, p. 253).

A PROSPECTUS FOR THE FUTURE

The obstacles to planning in public-sector organizations were, and still are, formidable. Within educational institutions specifically, changes in traditional governance structures are virtually a prerequisite to implementation of a planning process. Such traditions are sometimes altered by changing circumstances; perhaps those applicable to the last decade were not conducive to such a change. In this decade, the seeds of attitudinal adjustment within the academic community may be germinating already (Ladd and Lipset 1976, p. 12). Moreover, the threat to the long-term viability and vitality of the nation's colleges and universities, posed by inherently lower student demands and fiscal fortunes in the balance of this century, is such that the structural changes necessary to plan effectively may no longer be considered as serious a threat as the failure to plan at all. In this regard, the warning of the National Board on Graduate Education is most appropriate:

> In our opinion, it would be a serious mistake if students, faculty, department heads, university administrators, state and federal agencies, and private foundations ignored or dismissed these projections. Responsible action and planning must be started now if the potential human costs suggested by these projections are to be reduced. In particular, if universities drift through the next four to five years in the hope that something unforeseen will

> brighten the picture, we foresee a *wrenching and extremely damaging downward adjustment in the 1980's that could be minimized by careful planning and action now* (1975, p. 35).

The emerging environment for higher education is ominously clear; we advance toward it at an unrelenting pace. Change will occur; and, if this change is to take place on an orderly basis, planning will be required. Our experience with PPBS as a vehicle for accomplishing the process was a failure, rooted in the lack of meaningful planning procedures. The institution of such planning processes will require an accommodation by the traditional governance structure. Whether the academic community can make such an accommodation remains to be seen.

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